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## Implementing ATC Data Link Where are we, Where are we going, and When?

When conceived, the November 1<sup>st</sup> RTCA Fall Forum was intended to put a spotlight on the transition to Air Traffic Control (ATC) Data Link and to provide key players with an opportunity to offer their perspectives on major considerations attendant with the transition.

Then September 11<sup>th</sup> occurred...and all of its ramifications.

The Forum provided the desired opportunities for perspectives...but the message changed.

Continental Airlines identified the immediate financial impact of September 11<sup>th</sup>, a perspective that is probably representative of most US air carriers: project funding has been curtailed, current available seat miles have been reduced by about 20%, load factors are increasing but fare yields remain low, airlines are primarily focused on running their core business and little if any funds are available for capital investments.

Yet Continental is optimistic that traffic, and fares, will rebound over time. And when traffic and fares do recover, all the capacity problems that had existed prior to September 11<sup>th</sup> will return with a vengeance. The need for ATC modernization will not go away. Others reiterated this notion throughout the Forum.

In his presentation, FAA Free Flight Director John Thornton noted two significant changes in the CPDLC program. Build I, which was to have been operationally deployed at Miami during 2002, will not be placed in daily operation

but rather will continue to be developed as a system that could be deployed. CPDLC concept and capability experience gained via Build I will be incorporated in future ATC data link initiatives. Furthermore, the Build IA segment of the program will be delayed at least two years.

It is important to note that FAA and private sector participants jointly arrived at the need for the changes in the CPDLC program. Pragmatically, the delay will permit the FAA some time to address infrastructure issues while simultaneously providing air carriers time to improve their financial posture. The delay may also permit a look at additional services and security considerations.

What do the changes mean to the domestic CPDLC program? SC-194's Co-chair, Frank Cheshire, summarized it well at the conclusion of his Forum presentation. Some challenges exist: interoperability and continuing program commitment, satisfactorily dealing with the economic downturn, establishing cost/benefit incentives to equip, and addressing security considerations. What does this mean for an airline operator: survive the downturn, anticipate future growth and capacity issues, stay engaged.

And "stay engaged" is the operative term. The aviation community cannot lose sight of its goal – to deliver an operational ATC data link capability that will meet the safety, security and efficiency needs of the aviation community.

# Program Management Committee

The Program Management Committee (PMC) approved eight publications at its meeting on October 12, 2001. These new documents and changes are listed on page 10 of the *Digest*.

The work programs for several Special Committees were reviewed and discussed:

- **SC-188, High Frequency Data Link:** The PMC approved an extension to January 2002 for completion of the High Frequency Data Link MASPS. The committee plans to present the finished product to the PMC in March 2002.
- **SC-198, NEXCOM:** Two modifications to the SC-198 TOR were requested. The PMC approved the TOR modifications adding a VDL-3 Technology Specific NEXCOM

Principles Document and a VDL-3 NEXCOM Plan Document. SC-198 expects to complete these two products by March 2003.

- **SC-147, TCAS:** The PMC discussed in detail an FAA request to RTCA to “develop standards for the optional use of Automatic Dependent Surveillance-Broadcast information to enhance the TCAS see and avoid function by improving the performance of the situational awareness feature of the Traffic Alert and Collision Avoidance System traffic display.” The PMC agreed to query RTCA members to determine a level of interest and a suggested timeframe to accomplish this work. The PMC will determine which courses of action to pursue based on community support.

The FAA presented a request for RTCA to develop, in a time period as short as 30

days, a revision to RTCA/DO-181C, MOPS for Air Traffic Control Radar Beacon System/Mode S Airborne Equipment. The MOPS revision would support new transponder features as determined by the FAA-Industry Transponder Task Force. The FAA request originated from the Department of Transportation’s Aircraft Security Rapid Response Team Report. The PMC discussion pointed out that the RTCA Bylaws provide for “rapid action” in unusual circumstances. The PMC approved the request and reactivated SC-187 to develop the revision.

The PMC met on November 28, 2001. Its activity will be reported in the February *Digest*.

Next meeting: March 5, 2002

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**Chairman:** Bill Jeffers, ARINC  
**Secretary:** Harold Moses, RTCA, Inc.

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## RTCA Welcomes...

### NEW MEMBERS

**ACK Technologies Inc.**, San Jose, CA, manufactures TSO-C-88a and C-91a products. Representative: Mike Akatiff

**Aircraft Electronics Association**, Washington, DC, represents the interest of the civil aviation avionics business community. Representative: Richard Peri

**Aldec**, Henderson, NV, supplies Electronic Design Automation tools for Avionics equipment design and development. Representative: Robert N. Fess

**alt.software inc.**, Toronto, Canada, develops 3D computer graphic software for commercial and private airplane cockpit displays screens. Representative: Chris Brady

**Americana Technologies, Inc.**, Southlake, TX, designs and manufactures cockpit control systems, autopilot control systems, vertical speed systems and air data systems. Representative: Joseph Jamieson

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RTCA welcomes our newest members and their designated RTCA representatives. We look forward to their participation in RTCA activities. If you would like membership information for your organization, please contact RTCA. Phone: (202) 833-9339; Fax: (202) 833-9434; E-mail: [info@rtca.org](mailto:info@rtca.org).

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**Applied Research Lab Penn State University**, Warminster, PA, develops Digital Communications Systems Engineering. Representative: Steve Fleischut

**B-12 Consulting**, Kent, WA, provides consultation on communication, navigation, surveillance, and air traffic management systems and services. Representative: Alvin H. Burgemeister

**Eagan McAllister Associates, Inc.**, Lexington Park, MD, provides a comprehensive suite of engineering, project management, and technical services, including IT, Flight Test and Evaluation, Engineering and business process support. Representative: Floyd D. Warren

**Embedded Control Systems**, N. Canton, OH, provides training seminars in the use of DO-254. Representative: Renee Stoner

**EMS Technologies Canada**, Ottawa, Canada, develops Airborne Satellite Communication Systems. Representative: Gary Hebb

*New Members continued on page 10*

# The Courage to Move Forward – OEP After September 11

Charles Keegan  
Director, Operational Evolution Staff, FAA

American aviation was forever changed by the horrific terrorism we suffered on September 11<sup>th</sup>. The economic impact of the air transportation shutdown rippled from airports and airlines to hospitality and tourism. Shock waves reverberated through countless industries structured on just-in-time methods interwoven by air cargo. Not since World War II had our national spirit been so mobilized.



These tragic events highlighted the vital role that the aviation industry now plays in the economic and social framework of our nation. Aviation enthusiasts have known this for decades – now every American understands. Recognizing the critical threat to our homeland, we have enacted legislation to assist the airline industry and strengthen aviation security. These efforts will have a high priority in our agenda as we work to restore confidence in America's air transportation system. But this heightened emphasis on security must complement rather than divert us from our mission priorities of safety and ATC modernization. History has shown that today's aviation slowdown is temporary. As our economy recovers, the demand for air travel will increase. With this demand will come the potential for a return to the crippling capacity problems that plagued our skies during the summer of 2000. ATC modernization efforts to increase capacity must continue today to avoid this impediment to America's economic prosperity. In fact, this year's Thanksgiving travel was only down 16% from last year and indicates a return to our previous levels within the next two to three years.

Recognizing the continuing need for capacity improvements, the FAA is moving forward with the improvements defined in the Operational Evolution Plan (OEP). Originally released in June 2001, the OEP defines capacity and efficiency components of ATC modernization. The plan details specific commitments and decisions needed by the aviation community to introduce new technology, airspace design, airport infrastructure and operational procedures to achieve capacity improvements. Accomplishment of OEP goals depends on continuing coordination and cooperation within the aviation

community and RTCA's Free Flight Steering Committee, which facilitates this process.

Version 4.0 of the OEP, released in December, reflects modifications that accommodate new security requirements and temporarily reduced passenger demand. In some cases, timelines have been extended to reflect the economic realities following the events of September 11<sup>th</sup>. In particular, delivery of new runways that depend on local airport funding and projects that require airline equipment are extended and aligned with projected investment milestones. The OEP Version 4.0 also presents the status of the comprising projects including accomplishments, decisions and

discoveries. Highlights of this progress include:

- Runway Action Template Plan
- Detroit runway operations imminent
- 34 RNAV routes
- All Traffic Management Advisor sites operational
- 10 Choke point sectors implemented
- Controller Pilot Data Link Build 1 on-track for Summer 2002 deployment at Miami

As the name implies, the OEP will change over time to reflect new discoveries and constraints. The FAA will realign resources to maximize capacity benefits and take full advantage of maturing technology and initiatives that demonstrate significant cost benefit advantages. But the full capacity benefits can only be realized through active participation and commitment of both industry and government. Critical decisions that drive mid- and long-term goals hinge on our ability to achieve consensus on a realistic path to avionics equipment. This challenge means that we must look across a wide range of potential applications, converge on a focused solution and remain dedicated to timely implementation.

This requires courage. Courage to believe in the rapid recovery of aviation. Courage to stick to the plan. And the courage to continue to work together.

*...this heightened emphasis on security must complement rather than divert us from our mission priorities of safety and ATC modernization.*

# Satellite Communications (SC-165)

Special Committee 165 met October 3, 2001, at RTCA.

SC-165 completed the FRAC for amendments to two RTCA documents as follows:

- **Change 1 to DO-262, Minimum Operational Performance Standards for Aeronautical Mobile Satellite Services (AMSS) Avionics:** This change clarified that “technique-specific attachments” to DO-262 do not require RTCA approval or publication as a prerequisite to FAA TSO authorization. Technique-specific attachments are anticipated to be part of certification or approval documentation.

- **Change 2 to DO-210D, Minimum Operational Performance Standards for Geosynchronous Orbit Aeronautical Mobile Satellite Services (AMSS) Avionics:** After reviewing FRAC issues, SC-165 came to the conclusion that ITU-R M.1480 is not applicable to Aeronautical Mobile-Satellite (R) Service equipment covered by DO-210D. SC-165 also concluded that the European Telecommunications Standards Institute document is not mature with respect to multi-carrier or extended-environment Aircraft Earth Station equipment.

Change 1, DO-262 and Change 2, DO-210D were approved by the PMC on

November 28, 2001.

The SC-165 plenary had previously approved the *Minimum Aviation System Performance Standards (MASPS) for the Aeronautical Mobile-Satellite (R) Service (AMS(R)S) as Used in Aeronautical Data Links* which was subsequently approved as DO-270 by the RTCA PMC on October 12. That approval and completion has resulted in the sunset of SC-165 as its tasked work program is now complete after over 13 years of dedicated service.

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**Chairman:** Andy Pickens, AvComp  
**Program Director:**  
Rudy Ruana, RTCA, Inc.

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# Air Traffic Management Data Link Implementation (SC-194)

SC-194 met in plenary sessions on November 5 and 8, 2001, at RTCA. Emphasis was placed on the impact to CPDLC Builds I and IA. Consideration was also given to potential security requirement additions to the CPDLC program resulting from the terrorist attacks of September 11<sup>th</sup>.

Committee members were informed that changes to CPDLC Builds I and IA had been announced during RTCA's Fall Forum. The Build I implementation at Miami this coming year (June 2002) will become a technical evaluation. The Build IA national deployment implementation will be delayed two to three years from its previously planned start date of December 2003.

WG-1 continues to develop its product, *Plans and Principles for Implementation of Aeronautical Data Link System (ADLS) Build II (Spiral A)*. Having worked on FRAC comments, the WG engaged in drafting a revised document, which adds an addendum addressing potential operational and security additions to the implementation. Appropriate PMC direction will be obtained. SC-194 will re-

view the revised document upon its completion. The expectation is that this document will be ready for RTCA PMC consideration in mid 2002.

WG-2 is analyzing work done to map DO-269 service spirals to ADLS Build II spirals. Results will be used to support validation planning for en route services. The WG also concluded that opportunities exist for integrating ADLS and Free Flight Phase 2 tools. This refined work will be documented in a position paper for SC-194's further consideration.

WG-3 is supporting development of the Plans and Principles document while continuing to develop their product, which will discuss Minimum Human Factors Standards for Air Traffic Services (ATS) Provided via Data Communications Utilizing the ATN, Build II. This document will focus on ATS data link using ATN implementations scheduled after 2005. The target date for publication is January 2003.

WG-4 completed reviews of the FAA Telecommunications Program Plan and the new FAA interface document. How-

ever, completion of DO-Connect (the WG-4 assigned product) has been delayed. Consensus was that June 2003 is now a realistic date for completion.

SC-194 consensus was that SC-194 needs to continue on track, with the basic assumptions that demand on the NAS will return and that CPDLC continues to represent one of the most effective tools envisioned to manage demand, thus facilitating aviation industry growth.

SC-194 also endorsed development of the WG-1 Addendum, which intends to identify a need to validate human factors standards for enroute data link services and the identification and definition of activities needed for evaluation of key capabilities beyond Build I.

Next meeting: March 4-7, 2002

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## Co-Chairs:

Frank Cheshire, American Airlines  
Vic Nagowski, ARINC

## Program Director:

Rudy Ruana, RTCA, Inc.

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# RTCA Annual Symposium

# The New Aviation Environment

## Safety, Security and Efficiency

February 6-8, 2002

Albuquerque Sheraton Old Town Hotel  
800 Rio Grande Blvd., NW  
Albuquerque, NM 87104

Registration prices include a copy of the symposium *Proceedings*, admission to all sessions, coffee breaks, social events and the William E. Jackson Award Luncheon.

Registration	Before January 12, 2002	After January 12, 2002
Member	\$385	\$445
Non-Member	\$435	\$495

### Hotel Reservations:

The Albuquerque Sheraton Old Town Hotel is offering the following rates\* for RTCA Symposium attendees: Singles – \$115, Doubles – \$125, Suites – \$175. To book your reservations, please contact the hotel directly at (877) 901-7666.

\* Room reservations made on or before January 12, 2002, will be at the above rates. After January 12, 2002, reservations will be accepted on a space available and rate available basis. All reservations must be guaranteed by a major credit card or a first night's room deposit plus tax. Cancellations must be received by 4:00 p.m. one day prior to arrival.

### Registration Form

One completed registration form is required for each attendee. Copies of this form are acceptable.

Name: \_\_\_\_\_ Nickname for badge: \_\_\_\_\_

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

Special needs: \_\_\_\_\_

Method of Payment (check one)

☐ Check (enclosed) or ☐ Credit Card (check one)

☐ MasterCard ☐ Visa ☐ American Express

Credit Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Signature: \_\_\_\_\_

Payment must accompany registration. Make all checks payable in U.S. funds to RTCA. Mail or fax this form to RTCA, 1828 L Street NW, Suite 805, Washington, DC 20036; Fax: (202) 833-9434. Direct questions to RTCA at (202) 833-9339 or info@rtca.org. No refunds will be issued for any cancellations received after January 30, 2002. Cancellations must be made in writing.

**Watch RTCA's Web site for details.**

**www.rtca.org**



# Flight Information Services Communication (SC-195)

The SC-195 Plenary was held at RTCA on October 24-25, 2001. WG-1 reviewed the Weather Radar Intensity Users' Needs Analysis' (UNA) proposal for consistent descriptors of radar levels. The UNA group consists of various sections of FAA and many of the industry alphabet groups. UNA is working to develop consensus for consistent descriptors of radar hazard levels. The UNA proposal agrees with the radar hazard boundaries provided in DO-267 and is now open for comment.

SC-195 has also been asked to provide hazard level and color guidance on the National Connective Weather Forecast (NCWF) product, which has recently been approved for aviation. The NCWF uses Next Generation Weather Radar, lightning and other meteorological information to forecast turbulence. The National Weather Service and National Center for Atmospheric Research will present background information on how the NCWF product is generated at the next meeting.

SC-195 has determined that DO-267 adequately describes the operational environment for a strategic advisory Flight Information Services (FIS) service,

and a separate Operational Services and Environment Definition (OSED) is not required for the applications described in DO-267.

Rick Heuwinkel, FAA and Sandra Schmidt, FAA reported on the International Civil Aviation Organization Meteorological Information Data Link Study Group (MetlinkSG) that was held in September. The MetlinkSG future work plan includes developing guidance for graphical weather products and assessment of requirements for meteorological information during terminal operations. SC-195 does not agree with the MetlinkSG choice of Binary Universal Format Representation (BUFR) coding for data link applications due to the large amount of overhead required for BUFR and will communicate their findings to the MetlinkSG.

SC-195 reviewed a number of proposals from Honeywell for Change 1 to DO-267. The most notable was a requirement for a cyclic redundancy check on the end product. DO-267 only guarantees delivery of the Application Protocol Data Unit. It was recognized that aircraft certification would want to see some integrity level for delivery of the data link product

(a product can consist of multiple APDUs).

An overview of the Aerodrome FIS product development to support Safe Flight 21 was presented. The working group in which Rob Strain, MITRE Corporation, is involved is developing a specification for textual Terminal Weather Information for Pilots, Digital Automatic Terminal Information System (DATIS), Airport Notice to Airmen (NOTAMS) and Meteorological Aviation Report products using the DO-267 format. They plan to use DATIS and Airport NOTAMS on a Map Overlay. The FAA raised questions concerning the operational use and procedures relating to NOTAMS and DATIS. SC-195 agreed that NOTAMS and DATIS would probably be at a higher level of criticality than the strategic/advisory definition given in Section 1.0 of DO-267 and might require an OSED as defined in DO-264.

Next meeting: February 26-27, 2001

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**Chairman:** Steve Henely, Rockwell Collins, Inc.

**Program Director:**  
Rudy Ruana, RTCA, Inc.

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## Next Generation Communications (SC-198)

Special Committee 198 met October 24-25 and November 28-29, 2001, at RTCA. In response to a TOR revision approved by the PMC on October 12, the committee has formed two new working groups:

- **WG-3, Principles of Operations, VDL Mode-3:** WG-3 is co-chaired by Rob Fuschino, United Airlines and Dean Lamiano, MITRE/CAASD. This group is developing a document to supplement DO-274, *NEXCOM Principles of Operation*, with VDL-3 specific characteristics. The new document discusses three implemen-

tation segments of NEXCOM and will provide a high-level Operational Services and Environmental Description of the VDL-3 system for domestic NAS implementation. This document is expected to be completed in January 2002.

- **WG-4, Transition Plan for VDL-3:** Frank Jaworski, ITT Industries, has been named Chairman of WG-4 (which has not yet met). The transition plan is expected to include a transition strategy from analog voice to VDL-3 digital voice and Aeronautical Telecommunications Network based

data communications via VDL-2 and VDL-3. It is also expected to include recommendations for schedules, priorities, and the path for achieving goals and objectives for all U.S. NAS domains. The goal for completion of the transition plan is March 2003.

Another revision to the TOR for SC-198 is being considered to effect development of two additional documents.

Next meeting: January 23-25, 2002

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**Chairman:** Karl Grundmann, NASA

**Program Director:**  
Jerry G. Bryant, RTCA, Inc.

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# RTCA Offers Training Program on DO-178B

## *Software Considerations in Airborne Systems and Equipment Certification*

RTCA is pleased to offer two levels of training on the application of DO-178B:

- A one-day **Managers Course** that provides a sound understanding of why and how aviation-related software must be certified, system certification considerations, the content of DO-178B, and the application of DO-178B guidance.
- A three-day **Practitioners Course** that includes some elements of the Managers program but focuses on the details of DO-178B concepts, rationale and applications.

Course content is tailored to the expected experience of the students. Students derive maximum benefit from study between these two offerings based on their needs and responsibilities. The training schedule for the calendar year 2002 follows:

### ***Managers Course:***

**January 15  
April 23  
July 16  
October 22**

### ***Practitioners Course:***

**January 16-18  
April 24-26  
July 17-19  
October 23-25**

RTCA has contracted with Certification Services, Inc. (CSI), to provide DO-178B training. Training will be held at RTCA, 1828 L St. NW, Suite 805, Washington, DC 20036.

For complete information, see the RTCA Web site at [www.rtca.org](http://www.rtca.org).

### **FEE SCHEDULE**

Training Course	Registration	
	Non-member (per person)	Member (per person)
Managers Course (one day)	\$795	\$695
Practitioners Course (three days)	\$1,495	\$1,295

**REGISTRATION FORM:** Classes start at 09:00 AM and end at 05:00 PM each day with one hour for lunch.

Name	Mr. / Ms.	
Company/Affiliation		
Title		
Mailing Address		
Telephone No.		
Fax No.		
E-mail		
Address		
Credit Card No. and Company		Exp. Date /

Contact: Rudy Ruana, E-mail [rruana@rtca.org](mailto:rruana@rtca.org), Fax (202) 833-9434, Phone (202) 833-9339

# Future Flight Data Collection Committee (FFDCC)

The Future Flight Data Collection Committee held its final plenary session on October 15, 2001, at RTCA. This meeting was devoted to discussing the written comments received during the final review process. All comments were resolved and the committee approved the Future Flight Data Collection Final Report.

The FFDCC was established at the request of the FAA Administrator and the Chairman of the National Transportation

Safety Board to explore future data collection methods that would better help determine the factors that cause accidents and to provide a means to use data proactively to avoid accidents. The report offers seven recommendations and includes appendices detailing the work of the three working groups:

- WG-1, Data Needs
- WG-2, Technology
- WG-2, Data Use and Protection

Additionally, the report includes an appendix on deployable cockpit voice and flight data recorders.

The FFDCC final report will be reviewed and considered for approval by the RTCA Policy Board. The report should be available in December 2001.

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**Co-Chairs:** James Cash, NTSB  
David Downey, FAA  
**Program Director:**  
Jerry G. Bryant, RTCA, Inc.

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## Airport Security Access Control Systems (SC-199)

SC-199 met on November 8, 2001, at RTCA and reviewed working group activities and draft changes to DO-230. The committee was briefed that the Airport Security Bill making its way through Congress may affect the technical standards being developed. The committee

received multiple "vendor briefings" that identified new technology opportunities, particularly biometrics, which may enhance the next generation of system design. Individuals interested in participating in the committee should visit the RTCA Web site or contact RTCA directly.

Next meeting: January 24, 2002

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**Chair:**  
Christer Wilkinson, DMJMH+N, Inc.  
**Program Director:**  
Harold Moses, RTCA, Inc.

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## Environmental Conditions and Test Procedures (SC-135)

SC-135 met on October 2, 2001, and reviewed the 25 Sections of DO-160D to determine if there is the necessity to start work on a DO-160E version. A revision to Section 22, "Lightning Induced Transient Susceptibility," is expected by summer 2002. This revision

will be a candidate for a Change 3 to DO-160D. The status of the remaining test Sections will be considered in February 2002. Note: Changes 1 and 2 to DO-160D are published and available from RTCA.

Next meeting: February 12-14, 2002 (Tentative)

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**Chair:**  
Mike Kroeger, Honeywell International, Inc.  
**Program Director:**  
Harold Moses, RTCA, Inc.

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### ACRONYMS

ATC	Air Traffic Control	NEXCOM	Next Generation Air/Ground Communication
ATN	Aeronautical Telecommunications Network	PMC	Program Management Committee
CPDLC	Controller-Pilot Data Link Communications	SC	Special Committee
DO	Document	TOR	Terms of Reference
FRAC	Final Review and Comment	TSO	Technical Standard Order
MASPS	Minimum Aviation System Performance Standards	VDL	Very High Frequency Digital Link
MOPS	Minimum Operational Performance Standards	WG	Working Group
NAS	National Airspace System		

*RTCA Digest* is published six times per year by RTCA, Inc., a private, not-for-profit organization that brings industry and government together to address the needs of the worldwide aeronautical community.

For inquiries, comments, or document orders, please call (202) 833-9339 or fax (202) 833-9434.



## December

- 3-7 SC-189, Small Conf. Room, NBAA\* Room, ATA\*\* Room, Colson Board Room & ARINC Conf. Room
- 5 Free Flight Steering Committee, FAA, Bessie Coleman Room
- 10 SC-186/WG-1, ATA\*\* Room
- 10 SC-159/Ad Hoc, ARINC Conf. Room
- 10 SC-159/WG-1, Colson Board Room
- 10-11 SC-186/WG-6@ Rockwell-Collins Offices, Rosslyn VA
- 10-11 SC-186/WG-5, NBAA\* Room
- 10-11 SC-186/WG-4, MITRE
- 10-14 SC-159 – GPS Week, Colson Board Room & ARINC Conf. Room
- 11 RTCA Holiday Reception and Open House**
- 11 SC-159/WG-2C, ARINC Conf. Room
- 11 SC-159/WG-2, Colson Board Room
- 11 SC-159/WG-6, Colson Board Room
- 12 SC-159/WG-4, ARINC Conf. Room
- 12 SC-159/WG-6, Colson Board Room
- 12-13 SC-186 Plenary, NBAA\* Room & ATA\*\* Room
- 13 SC-159/WG-4, Colson Board Room
- 13 SC-159/WG-5, ARINC Conf. Room
- 14 SC-186/WG-4, MITRE
- 14 SC-186/WG-5, NBAA\* Room
- 14 SC-186/WG-1, ATA\*\* Room

- 14 SC-186/WG-6, Rockwell-Collins Offices, Rosslyn, VA
- 14 SC-159 Plenary, Colson Board Room
- 17-19 SC-188 Plenary, WG-1, Medium Conf. Room
- 18 SC-187 (tentative), NBAA\* Room & ATA\*\* Room

## January

- 14-18 SC-181, Melbourne, FL
- 15 DO-178B Training, Managers Course, NBAA\* Room & ATA\*\* Room
- 16-18 DO-178B Training, Practitioners Course, NBAA\* Room & ATA\*\* Room
- 23 SC-198 Plenary, NBAA\* Room & ATA\*\* Room
- 24 SC-199 Plenary, NBAA\* Room

- & ATA\*\* Room
- 24-25 SC-198 WG-3 / WG-4, Colson Board Room & ARINC Conf. Room
- Jan 29-Feb1 SC-172 WGs 2 and 3, NBAA\* Room & ATA\*\* Room

## February

- 5-6 SC-195, NBAA\* Room & ATA\*\* Room
- 6-8 RTCA Annual Symposium, "The New Aviation Environment – Safety, Security and Efficiency" Sheraton Old Town Hotel, Albuquerque, NM (Fee)**
- 12-14 SC-135, tentative, Location TBD



# RTCA

Cordially invites you to attend its  
Holiday Reception  
&  
Open House

Tuesday, December 11, 2001  
4:30-6:30 p.m.  
1828 L Street, NW  
Suite 805  
Washington, DC 20036

Please RSVP to RTCA at 202-833-9339 by December 7.

**Note:** RTCA would like to thank ARINC for its sponsorship of the ARINC Conference Room at RTCA.  
\* NBAA sponsors the Fred B. McIntosh Conference Room  
\*\* ATA sponsors the Ray Hilton Conference Room

Unless otherwise specified, all meetings will be held at RTCA, Inc., 1828 L Street NW, Suite 805, Washington, DC 20036 USA. Phone: (202) 833-9339. Fax: (202) 833-9434. Internet: [www.rtca.org](http://www.rtca.org). The information in this calendar is deemed to be reliable as of the date of publication, but is not guaranteed and is subject to change. Please contact RTCA for updates. All RTCA meetings are open to the public and free of charge, except where otherwise indicated. Visit our Web site at [www.rtca.org](http://www.rtca.org) for current schedules of SC meetings, WG meetings, and other upcoming events. If you have any problems or questions, contact RTCA ([info@rtca.org](mailto:info@rtca.org)).

# NEW DOCUMENTS AVAILABLE

## **DO-275, Minimum Operational Performance Standards for Integrated Night Vision Imaging System Equipment**

*Issued 10-12-01 ♦ Prepared by SC-196*

This document contains MOPS for the aviation night vision imaging system (NVIS) used to supplement night Visual Flight Rules operations.

## **DO-274, Next Generation Air/Ground Communications (NEXCOM) Principles of Operation**

*Issued 10-12-01 ♦ Prepared by SC-198*

This document characterizes the Principles of Operation for use of integrated digital air/ground voice and data systems in the domestic NAS. Ideas presented are intended to provide a framework for NAS communications subsequent to 2010.

## **DO-273, Response to the Report of the RTCA Chairman's Committee on NEXCOM**

*Issued 10-12-01 ♦ Prepared by SC-198*

In response to a request from the FAA, the RTCA Chairman's Committee produced a NEXCOM report that identifies issues attendant with transitioning Air Traffic Control communications to a digital voice and data communications system. DO-273 reports actions being taken that address the recommendations in the chairman's committee report.

## **DO-272, User Requirements for Aerodrome Mapping Information**

*Issued 10-12-01 ♦ Prepared by Joint RTCA SC-193/EUROCAE WG-44*

This document identifies aeronautical applications and provides industry requirements for airport mapping databases.

## **DO-271, Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 3 Transceiver Operating in the Frequency Range 117.975-137.000 MHz**

*Issued 10-12-01 ♦ Prepared by SC-172*

This document presents the MOPS and verification procedures for an aircraft Very High Frequency Digital Link Mode 3 transceiver intended to be used for air-ground (A/G) voice and data communications.

## **DO-270, Minimum Aviation System Performance Standards (MASPS) for the Aeronautical Mobile-Satellite (R) Service (AMS(R)S as Used in Aeronautical Data Links**

*Issued 10-12-01 ♦ Prepared by SC-165*

This document provides MASPS for data communications utilizing aeronautical mobile satellite systems for the air-ground communications subnetwork in an ATN environment. The document focuses on data versus voice and covers a broad range of satellite systems to include the current and next generation satellites.

## **DO-248B, Final Annual Report For Clarification Of DO-178B "Software Considerations in Airborne Systems and Equipment Certification"**

*Issued 10-12-01 ♦ Supersedes DO-248A ♦ Prepared by Joint RTCA SC-190/EUROCAE WG-52*

DO-248B includes the material from the Second Annual Report, DO-248A, and adds new Frequently Asked Questions and Discussion Papers resulting from the committee's review of over 330 issues.

## **Change 1, DO-224A, Signal-in-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications Including Compatibility with Digital Voice Techniques**

*Issued 10-12-01 ♦ Prepared by SC-172*

This Change provides important link budgets for Very High Frequency Digital Link and it is applicable to both VDL Mode 2 and VDL Mode 3. The change adds new definitions and sections, replaces some sections, and updates, corrects and replaces some tables.

For more detailed document summaries, view the complete Listing of Available Documents online at [www.rtca.org](http://www.rtca.org).

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*New Members continued from page 2*

**KID-Systeme GmbH**, Buxtehude, Germany, specializes in the design of aircraft cabin electronics and is a fully-owned subsidiary of Airbus. Representative: Marlene Eberle

**Orion Engineering**, Essex, United Kingdom, sources components for organizations which are using very old avionics equipment. Representative: Anil Sachan

**SICTA**, Giugliano in Campania, Italy, develops Advanced Systems for Air Traffic Control. Representative: Dr. Marcello Donzelli

**Sigma Associates (Aerospace) Limited**, Bershire, United Kingdom, is a consultancy specializing in the end-to-end support of the software aspects of certification. Representative: Ross Hannan

**Swan International Services Pty Ltd.**, Windsor, Australia, conducts research and development of Airborne Windshear Alert systems. Representative: Brian McGuire